UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/490,630	01/24/2000	Andrew W Wilson	ADAPP085B	7417

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EXAMINER
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ART UNIT	PAPER NUMBER
2144	

DATE MAILED: 10/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

		Application No.	Applicant(s)
Office Action Summary		09/490,630	WILSON ET AL.
		Examiner	Art Unit
		Tammy T Nguyen	2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *(3)* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 September 2004* .

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle,* 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-22* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 January 2000* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ .

4)☐ Interview Summary (PTO-413) Paper No(s). _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____ .

UNITED STATES PATENT AND TRADEMARK OFFICE

Detailed Office Action

1.   A request for continued examination under 37 CFR 1.114, including the fee set forth in

37 CFR 1.17(e), was filed in this application after final rejection. Since this application is

eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e)

has been timely paid, the finality of the previous Office action has been withdrawn pursuant to

37 CFR 1.114. Applicant's submission filed on September 13, 2004 has been entered.

2.   Claims 1-22 are presented for examination.

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as-a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 1-11, 13, 15-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Deb et al., (hereinafter Deb) U.S. Patent No. 6,172,990 in view of Alessandro Braccini et al.,

(hereinafter Alessandro), "Interprocess Communication Dependency on Network Load", IEEE

Transactions on Software Engineering, Vol.17, Issue 4 (April 1991). Page 357-369.

5.   As to claim 1, Deb teaches the invention as claimed, including a method for processing

storage data that is to be communicated over a network, comprising:

providing storage data to be transmitted over a network (Fig.2A, packet buffer, col.24,

lines 50-60, and col.4, lines 27-45);

serializing the storage data that was provided using storage encapsulation protocol

(SEP) headers to generate serialized storage data; (Fig.8, encapsulated Packet, col.21, lines 15-20

and lines 60-67). But Deb does not teach encapsulating the serialized storage data that was

serialized using the SEP with a simple transport protocol (STP) to generate simple transport

protocol data segments of the storage data; and encapsulating each of the simple transport

protocol data segments into Ethernet frames. However, Alessandro teaches encapsulating the

serialized storage data that was serialized using the SEP with a simple transport protocol (STP)

to generate simple transport protocol data segments of the storage data; and encapsulating each

of the simple transport protocol data segments into Ethernet frames. (Abstract, "a lightweight

transport protocol specifically tailored to the requirements of a bulk data transfer over an

Ethernet is addressed"). It would have been obvious to one of ordinary skill in the Data

Processing art at the time of the invention to combine the teachings of Deb and Alessandro to

have an encapsulating the serialized storage data that was serialized using the SEP with a simple

transport protocol (STP) to generate simple transport protocol data segments of the storage data;

and encapsulating each of the simple transport protocol data segments into Ethernet frames

because it would have an efficient system that can reduce costs and complexity.

6.   As to claim 2, Deb teaches the invention as claimed, wherein the serializing of the

storage data using storage encapsulation protocol headers to generate serialized storage data

includes:

receiving the storage data, the storage data including one or both of commands and data,

the commands including write commands, read commands, control commands ,and status

commands (col.6, lines 35-54);

selecting portions of the received storage data to be serialized, the selected portions

including commands and data (col. 6, lines 34-54); and

appending storage encapsulation protocol headers to each of the selected portions

(Abstract, col.4, lines 3-16).

7.   As to claim 3, Deb teaches the invention as claimed, wherein the encapsulating of the

serialized storage data using a simple transport protocol to generate simple transport protocol

data segments of the storage data includes:

selecting portions of the serialized storage data (col.13, lines 35-50); and

appending simple transport protocol headers to the selected portions to generate the

simple transport protocol data segments of the storage data (col.28, lines 5-14).

8.   As to claim 4, Deb teaches the invention as claimed, wherein the encapsulating of each of

the simple transport protocol data segments into Ethernet packets includes:

generating media access controller (MAC) header (col.2, lines 1-10, col.2, lines 65-67);

appending the simple transport protocol segments to the MAC header (col.4, lines 20-27);

and

appending a cyclic redundancy check (CRC) to the simple transport protocol segments

(col. 6, lines 55-65).

9.   As to claim 5, Deb teaches the invention as claimed, wherein the simple transport

protocol headers each include at least a handle field, a type field, a length field, a sequence

number field, and an acknowledgment field (col.2, lines 37-52).

10.   As to claim 6, Deb teaches the invention as claimed, wherein the handle field is used to

exchange a handle during the commencement of a session, the handle being exchanged between

a initiator and a target of the network (col.2, lines 37-52).

11.   As to claim 7, Deb teaches the invention as claimed, wherein the sequence number field

is configured to count Ethernet frames (Fig.1B, and col.2, lines 37-51).

12.   As to claim 8, Deb teaches the invention as claimed, wherein the acknowledgment field is

used to exchange positive and negative acknowledgments of transactions (col.2, lines 55-67).

13.   As to claim 9, Deb teaches the invention as claimed, wherein the storage encapsulation

protocol contains a tag so that data segments and data segments of the storage data can be

matched to a correct command (col.6, lines 34-54).

14.   As to claim 10, Deb teaches the invention as claimed, wherein the STP transport protocol

is configured to provide a stream of bytes arriving in the same order as they were sent (col.6,

lines 15-30).

15.   As to claim 11, Deb teaches the invention as claimed further comprising: appending an IP

header to each of the simple transport protocol data segments (col.22, lines 46-64).

16.   As to claim 13, Deb teaches the invention as claimed, including a method for

communicating storage data over an Ethernet network using a non-TCP lightweight transport

protocol, comprising:

        providing data having a peripheral device protocol format, the data to be communicated

over the Ethernet network (col.1, lines 39-51);

        selecting portions of the data having the peripheral device protocol format; (col.13, lines

39-50, col.14, lines 13-33, and col.15, lines 1-15). Deb does not teach attaching storage

encapsulation (SEP) headers to the selected portions of the data; attaching simple transport

protocol (STP) headers to one or more of the selected portions <u>with</u> the SEP headers to produce

STP packets; and encapsulating the STP packets into Ethernet frames for communication over

the Ethernet network. However, Alessandro teaches encapsulation (SEP) headers to the selected

portions of the data; attaching simple transport protocol (STP) headers to one or more of the

selected portions with the SEP headers to produce STP packets; and encapsulating the STP

packets into Ethernet frames for communication over the Ethernet network (Abstract, "a

lightweight transport protocol specifically tailored to the requirements of a bulk data transfer

over an Ethernet is addressed"). It would have been obvious to one of ordinary skill in the Data

Processing art at the time of the invention to combine the teachings of Deb and Alessandro to

have an encapsulation (SEP) headers to the selected portions of the data; attaching simple

transport protocol (STP) headers to one or more of the selected portions with the SEP headers to

produce STP packets; and encapsulating the STP packets into Ethernet frames for

communication over the Ethernet network because it would have an efficient system that can

reduce costs and complexity.

17.   As to claim 15, Deb teaches the invention as claimed, wherein the STP headers include at

least a handle field, a type field, a length field, a sequence number field, and an acknowledgment

field (col.2, lines 37-52).

18.   As to claim 16, Deb teaches the invention as claimed, wherein the handle field is used to

exchange a handle during the commencement of a session, the handle being exchanged between

a initiator and a target of the network (col.2, lines 37-52).

19.   As to claim 17, Deb teaches the invention as claimed, wherein the sequence number field

is configured to count Ethernet frames (Fig.1B, and col.2, lines 37-51).

20.   As to claim 18, Deb teaches the invention as claimed, wherein the acknowledgment field

is used to exchange positive and negative acknowledgments of transactions (col.2, lines 55-67).

21.   As to claim 19, Deb teaches the invention as claimed, including a method for

communicating data over an Ethernet network using a non- a TCP lightweight transport protocol,

comprising:

        providing data having a virtual interface format, the data to be communicated over the

Ethernet network (Virtual Interface transfer by using the STP protocol, col.2, lines 37-40, col.20,

lines 30-36);

        selecting portions of the data having the virtual interface format (col.13, lines 39-50,

col.14, lines 13-33, and col.15, lines 1-15). But Deb does not teach attaching simple transport

protocol (STP) headers to the selected portions of the data to produce STP packets; and

encapsulating the STP packets into Ethernet frames for communication over the Ethernet

network. However, Alessandro teaches attaching simple transport protocol (STP) headers to the

selected portions of the data to produce STP packets; and encapsulating the STP packets into

Ethernet frames for communication over the Ethernet network (Abstract, "a lightweight transport

protocol specifically tailored to the requirements of a bulk data transfer over an Ethernet is

addressed"). It would have been obvious to one of ordinary skill in the Data Processing art at the

time of the invention to combine the teachings of Deb and Alessandro to have attaching simple

transport protocol (STP) headers to the selected portions of the data to produce STP packets; and

encapsulating the STP packets into Ethernet frames for communication over the Ethernet

network because it would have an efficient system that can reduce costs and complexity.

22.   As to claim 20, Deb teaches the invention as claimed, including a method for

communicating data over a network using a non-TCP lightweight transport protocol, comprising:

providing data, the data to be communicated over the network (col.1, lines 39-51);

selecting portions of the data that is to be communicated over the network (col.13, lines

39-50, col.14, lines 13-33, and col.15, lines 1-15). But Deb does not teach attaching simple

transport protocol (STP) headers to the selected portions of the data to produce STP packets; and

encapsulating the STP packets into frames for communication over the network. However,

Alessandro teaches attaching simple transport protocol (STP) headers to the selected portions of

the data to produce STP packets; and encapsulating the STP packets into frames for

communication over the network (Abstract, "a lightweight transport protocol specifically tailored

to the requirements of a bulk data transfer over an Ethernet is addressed"). It would have been

obvious to one of ordinary skill in the Data Processing art at the time of the invention to combine

the teachings of Deb and Alessandro to have attaching simple transport protocol (STP) headers

to the selected portions of the data to produce STP packets; and encapsulating the STP packets

into frames for communication over the network because it would have an efficient system that

can reduce costs and complexity.

23.   As to claim 21, Deb teaches the invention as claimed, wherein the data is one of storage

data, network data, file data, and virtual interface data (col.24, lines 50-60 and col.4, lines 27-

45).

24.   As to claim 22, Deb teaches the invention as claimed, wherein the network is configured

to communicate storage data (col.24, lines 50-60 and col.4, lines 27-45).

25.   Claims 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deb et

al., (hereinafter Deb) U.S. Patent No. 6,172,990, and Alessandro Braccini et al., (hereinafter

Alessandro), "Interprocess Communication Dependency on Network Load", IEEE Transactions

on Software Engineering, Vol.17, Issuse 4 (April 1991). Page 357-369 in view of Alexander et

al., (hereinafter Alexander) U.S. Patent No. 5,909,564.

26.   As to claim 12, Deb does not teach selection from one of SCSI data, ATAPI data, and

UDMA data. However, Alexandria teaches selection of parallel-to serial data (column.1, lines

46-52 and col.3, lines 58-65). It would have been obvious to one of ordinary skill in the Data

Processing art at the time of the invention to combine the teachings of Deb and Alexandria to

have selection from one of SCSI data, ATAPI data, and UDMA data because it would have an

efficient system that can increase data width and increased speed.

27.   Claim 14 has similar limitations as claim 12; therefore, it is rejected under the same

rationale.

Response to Arguments

28.   Applicant's arguments with respect to claims 1-22 have been considered but are moot in

view of the new ground(s) of rejection.

Conclusion

29.   Any inquiries concerning this communication or earlier communications from

the examiner should be directed to **Tammy T. Nguyen** who may be reached via telephone at

(703) 305-7982. The examiner can normally be reached Monday through Friday between 8:00

a.m. and 6:00 p.m. eastern standard time.

        If you need to send the Examiner, a facsimile transmission regarding this

instant application, please send it to **(703) 872-9306**. If attempts to reach the examiner by

telephone are unsuccessful, the Examiner's Supervisor, Bill Cuchlinski, may be reached at **(703)**

308-3873.

TTN
October 15, 2004

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